Claims

We claim:

1. A resource allocation method for a communication network having at least one gateway user connected to the network via at least one gateway access terminal and at least one non-gateway user, comprising:

identifying said at least one gateway access terminal;

obtaining a data backlog size of said at least one gateway access terminal; and

selectively raising the priority of at least one gateway access terminal based on the data backlog size.

2. The resource allocation method of claim 1, wherein the raising step is conducted if the data backlog size of said at least one gateway access terminal is above a predetermined threshold.

3. The resource allocation method of claim 1, wherein said at least one gateway access terminal comprises a plurality of gateway access terminals, and wherein the raising step comprises raising the priority of the gateway access terminal having the largest data backlog size.

4. The resource allocation method of claim 3, further comprising:

comparing the largest data backlog size with a smallest data backlog size among said plurality of gateway access terminals;

raising the priority of the gateway access terminal having the largest data backlog size if the largest data backlog size is at least a predetermined multiple of the smallest data backlog size; and

maintaining the priority of the gateway access terminal if the largest data backlog size is less than the predetermined multiple of the smallest data backlog size.

5. The resource allocation method of claim 3, wherein the raising step comprises:

comparing data backlog sizes for at least two of said plurality of gateway access terminals; and

assigning relative priorities for said at least two gateway access terminals based on the relative data backlog sizes of said at least two gateway access terminals.

6. The resource allocation method of claim 3, further comprising:

updating the data backlog size after at least one of said plurality of gateway access terminals transmits data; and

repeating the identifying, obtaining, and selectively raising steps for said plurality of gateway access terminals.

7. The resource allocation method of claim 1, further comprising maintaining the priority of one gateway access terminal if only one gateway user is connected to the gateway access terminal.

8. The resource allocation method of claim 1, further comprising labelling the gateway access terminals as a special quality of service (QoS) class.

9. The resource allocation method of claim 1, further comprising:

comparing resource usage of at least one gateway access terminal with a hogger threshold; and

adjusting the priority of said at least one gateway access terminal if the resource usage exceeds the hogger threshold.